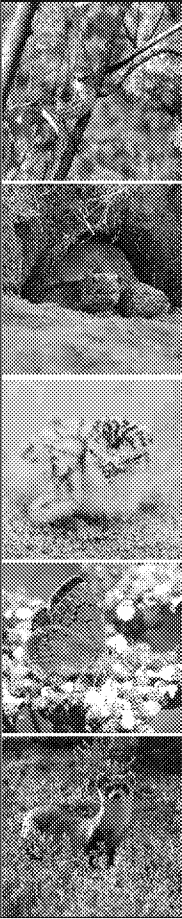


Non-Agricultural Uses

Goal

- To identify potential sources of usage data for non-agricultural applications, a process for obtaining the data, and a path forward if there are no data.

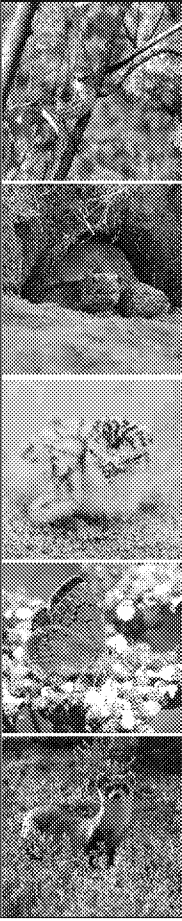
Good morning, let's now turn to non-agricultural uses of these Ops. The following few slides will help set the stage for our group discussion.



Non-Agricultural Uses

- Nurseries
- Wide-area use
- Managed forest
- Pasture
- Right-of-way
- Developed and open-space developed
- Golf courses
- Mosquito adulticide
- Other products
 - seed treatment
 - granular
 - bait

Refresh everyone's memory of what non-ag uses are for these 3 OPs. This is very quick.

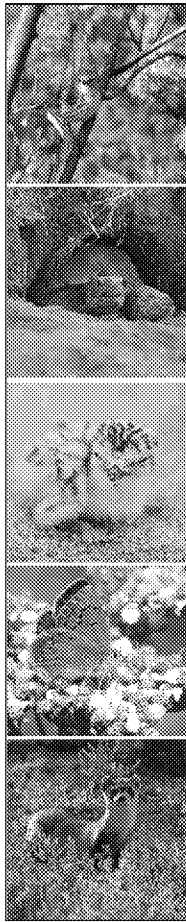


Background

- The BEAD usage data does not include most non-agricultural uses.
- Some labels allow for high application rates and/or unrestricted frequency of application.
- Non-agricultural uses can have high overlap with species ranges.

But it does include some nursery information from 6 states.

Deliberative Process / Ex. 5



Example Species

Yellow-billed Cuckoo (*Coccyzus americanus*)

- Managed forest = 16.4% overlap (chlorpyrifos)
- Pasture = 9% (malathion)



Overlap with CDL Layers:

Chlorpyrifos comprises 16.4% range overlap with managed forest but the cuckoo's range also overlaps with adulticide, wide area use, cattle eartag, pasture, right of way, developed, and open space developed,. The extent of overlap ranges from <1 – 16.43% per use

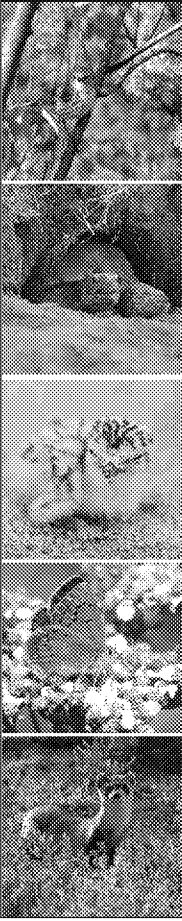
Deliberative Process / Ex. 5

Malathion: The following malathion use categories overlap with the Yellow-billed cuckoo range: mosquito control, pasture, developed, open space developed. All uses overlap 2% or less with the cuckoo's range:

Deliberative Process / Ex. 5

Deliberative Process / Ex. 5

Diazinon (no managed forest): The following diazinon use categories overlap with the Yellow-billed cuckoo range: nurseries (<1% overlap per use) and cattle ear tag (47% overlap).



Example Species

Red Hills salamander (*Phaeognathus hubrichti*)

- Managed forest = 31% (chlorpyrifos)



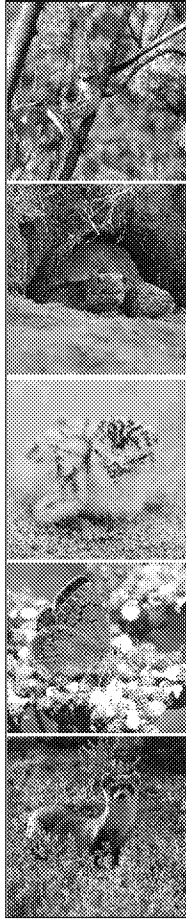
Chlorpyrifos: Managed forests (31%), Cattle ear tag (4%), and

Deliberative Process / Ex. 5

Malathion: Pasture (1%)

Deliberative Process / Ex. 5

Diazinon:



Example Species

Coastal California gnatcatcher (*Poliioptila californica californica*)

- Right-of-way = 32.3% (chlorpyrifos)
- Developed = 29% (malathion)
- Pasture = 13% (malathion)
- Open space developed = 11% (malathion)



Photo: Bob Steele/Minden

Small insectivorous bird that is non-migratory. Resides in the highly fragmented and urbanized so. Calif. Other non-ag uses that overlap the CAGN range include: adulticide, wide area use, right of way, developed, pasture, cattle eartag, open space developed, managed forests, golf courses for chlorpyrifos.

Chlorpyrifos (ROW overlap is 32.29%): The following chlorpyrifos use categories overlap with the Coastal California gnatcatcher range: The extent of overlap ranges from <1 – 32.29% per use, with the exception of mosquito control and wide area use.

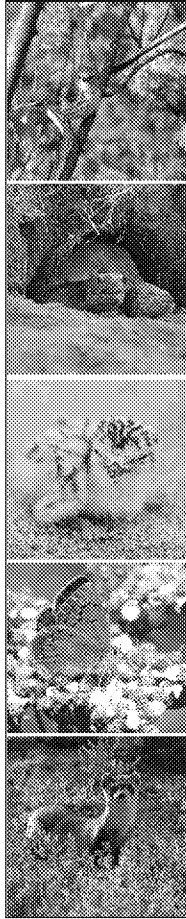
Deliberative Process / Ex. 5

Malathion: The following malathion use categories overlap with the Coastal California gnatcatcher range: mosquito control, developed, pasture, open space developed, nurseries. The extent of overlap ranges from <1 – 29% per use.

Deliberative Process / Ex. 5

Diazinon: The following diazinon use categories overlap: nurseries, and (<1% overlap per use) and cattle eartag (15%).

Deliberative Process / Ex. 5



Example Species

Bog turtle (*Clemmys muhlenbergii*)

- Developed = 10%
- Developed open space = 13%
- Right-of-way = 17%
- Pasture = 14%
- Managed forests = 6%

(malathion and chlorpyrifos)



Chlorpyrifos: Open space developed (13%), Developed (10%), Cattle ear tag (21%), Right of way (17%), Pasture (14%), Managed forests (6%)

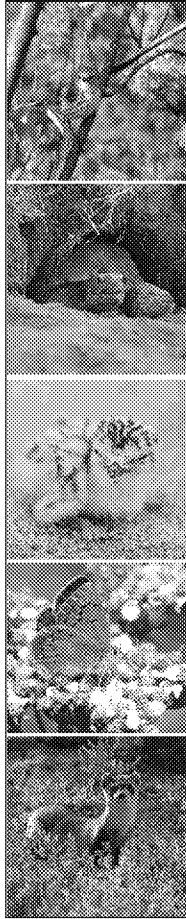
Deliberative Process / Ex. 5

Malathion: Open space developed (13%), Developed (10%), Pasture (14%),

Deliberative Process / Ex. 5

Deliberative Process / Ex. 5

Diazinon (no developed or developed open space): Cattle ear tag (21%), Nurseries (<1%),



Example Species

San Joaquin kit fox (*Vulpes macrotis mutica*)

- Pasture = 41% (malathion and chlorpyrifos)
- Open space developed = 5% (malathion)
- Developed = 4% (malathion)



Chlorpyrifos: pasture (41%), cattle ear tag (44%) right of way (7%)

Deliberative Process / Ex. 5

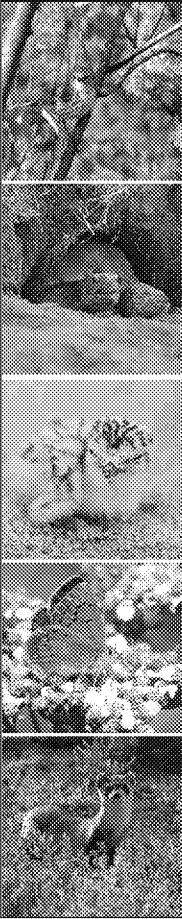
Deliberative Process / Ex. 5

Malathion: pasture (41%), open spaced developed (5%), developed (4%)

Deliberative Process / Ex. 5

Deliberative Process / Ex. 5

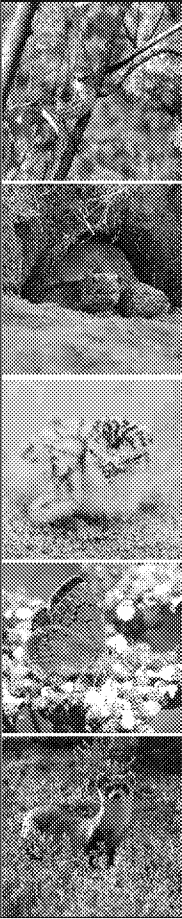
Diazinon: cattle ear tag (44%), and nurseries (<1%).



Data Needs

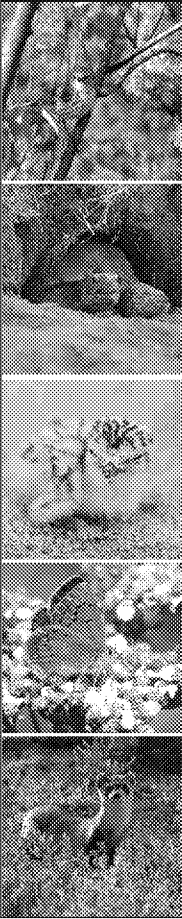
- Managed forest – USDA Forest Service, state forest agencies?
- Pasture – State extension office, cattle growers association?
- Right-of-way – state or federal transportation authorities?
- Developed and open-space developed – ??

So how can we refine our understanding of usage within these different non-ag use areas? We have some suggestions, but we wanted to hear from you on where additional data resides and who can help gather that data.



Data Needs

- Golf courses – turf and golf course management extension office?
- Nurseries – Nursery Growers Association?
- Other products:
 - seed treatment – USDA?
 - granular
 - bait



Data Needs

- Mosquito adulticide – mosquito control districts for data on where it is applied.
 - data can be collected from the State mosquito control districts (FL, CA, WA), others?
 - Use of American Mosquito Control Association data?
- Wide-area use – data sources?
- We recommend working with the registrants (applicants) for additional usage information?

Deliberative Process / Ex. 5